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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,777	05/01/2001	Robert F. Zepf	USFFIL.097A	4606

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EXAMINER

MENON, KRISHNAN S

ART UNIT PAPER NUMBER

1723

DATE MAILED: 02/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/846,777

Applicant(s)

ZEPF, ROBERT F.

Examiner

Krishnan S Menon

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1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

### DETAILED ACTION

Claims 1-19 are pending.

#### *Inventorship*

In view of the papers filed on 1/12/04, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by addition of Richard McDonogh.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of the file jacket and PTO PALM data to reflect the inventorship as corrected.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8, 14 and 16 rejected under 35 U.S.C. 102(b) as being anticipated by Kinn et al (US 4,973,382).

Kinn teaches a polymer mesh (abstract) comprising a first and second surface having pores >10 microns (col 2 lines 27-31) with support structure having reticulated network of flow channels (col 3 lines 45-53) as in claim 1. pore dia about 60 microns, or

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from 50-200, or 60-150, or 70 – 100 microns as in claims 2-5. Membrane thickness > 50 microns as in claim 8, polymer is polyester or acrylic as in claim 14 and has hydrophilic components as in claim 16 (col 3 lines 30-35).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et. al.(US 6,146,747) in view of Wang (US 5,869,174)

Wang (747) discloses a polymer membrane mesh (applicant uses 'mesh' to mean a coagulated structure with reticular network of flow channels; ref: specification page 2 last para to page 3 first para) comprising a surface with minimum pores and opposite surface with maximum pores, with a porous support in between the two surfaces. (col 6: 10-30). The average pore size of one of the surfaces would be greater than 10 microns by the pore size ratios defined by Wang (col 6 lines 11-30). In col 6 lines 11-30, Wang teaches that the microporous membrane has a surface with minimum pores and an opposite surface with maximum pores, and the ratio of the average diameter of the minimum pores to the average diameter of the maximum pores could be from 5 to as high as 500. Compare this with the isotropic microporous surface having minimum pore size of 0.1-3 microns, these ratios would give the opposite surface pore sizes from 50-1500 microns (See Table A, column labeled 'microporous surface' and

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lines 15, 17, 21, 22, and 24 for isotropic pores. Isotropic pore size would also be the average pore size, since isotropic means 'exhibiting properties of same values'; Miriam Webster's Dictionary). The membrane has a bubble point about 0.5 psi or more (col 6: 25-30) and water permeabilities in the range of 30,000 ml/min for a 90 mm dia disc at 10 psi pressure (col 7: 30-38). Membrane thickness is about 25 to 140 microns. Membranes can be made from polyosulfones (col 2: 39-58; col 3: 59-60); PVdF (col 5(45-65); hydrophilic (col 6: 39-63); hydrophilic component PVP; with ratio of polymer to hydrophilic component at 12/30 to 20/1.

Wang (747) does not specifically teach that both surfaces have pore size >10 microns. Wang (174) teaches an asymmetric membrane with first surface pores that is greater than 10 microns and second surface pores more than 50 times greater than the first surface pores (abstract, col 4 lines 46-64). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Wang (174) in the teaching of Wang (747) to make filter membrane for use as pre-filters etc as taught by Wang (174) (col 3 lines 23-40).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

This action flows an RCE and is made non-final

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Krishnan Menon  
Patent Examiner

  
W. L. WALKER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700